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# Biotechnology Notes

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**Biotechnology Notes**, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

## INSIDE USDA

### OUR FRIENDS THE FUNGI

There are literally thousands of fungi in the world, some nicer than others. But the fungi that Rich Lamar is working with at the Forest Service's Forest Products Laboratory in Madison, WI is especially kind to the environment.

He and his colleagues, along with researchers from the Environmental Protection Agency (EPA), are using a wood decay fungus, *Phanerochaete sordida*, to clean up soil which has been contaminated with chemicals used to preserve wood. The chemicals are applied at wood treatment sites to prevent the wood from decaying, and some spill over onto the ground. Fungi applied to the soil breaks down the chemicals and restores the soil to its natural composition.

In other studies at the Laboratory using fungi, scientists are making ethanol from wood, learning how to genetically engineer fungi (including yeasts), studying biopulping -- the softening of wood for pulping, and developing superior enzymes for the new commercial process of enzymatic bleaching of wood pulp.

To learn more about these and other projects, please call Kent Kirk, Director of the Institute for Microbial and Biochemical Technology, Forest Products Laboratory, at 608-231-9487.

### NEW ABRAC MEMBER SELECTED

Rudy J. Wodzinski, professor of molecular biology and microbiology at the University of Central Florida in Orlando, has been named to USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC). The ABRAC provides advice to the Secretary of Agriculture on matters pertaining to biotechnology and science.

Wodzinski is a native of Chicago, IL and a graduate of Loyola University and the University of Wisconsin. He has served as a liaison to the ABRAC for the American Society for Microbiology since 1988 as well as a liaison to the National Research Council Board on Agriculture. Wodzinski will occupy a slot on the ABRAC vacated by Lee Bulla, who resigned earlier this year to pursue academic interests.

## **NEWS AROUND THE NATION (AND THE WORLD)**

### **PUBLIC INVITED TO EPA PANEL MEETING**

The public is invited to attend a meeting of the EPA Scientific Advisory Panel, December 18, 1992, from 8:30 am to 4:30 p.m., at the Sheraton Crystal City Hotel in Arlington, VA. The topic of discussion is the regulatory status of pesticides produced by plants.

EPA enforces two statutes that are relevant to plant pesticides -- FIFRA and FFDCA. Under FIFRA (the Federal Insecticide Fungicide Rodenticide Act), a pesticide may not be sold or distributed in the United States unless it is registered or exempt from regulation. Under the Federal Food, Drug, and Cosmetic Act (FFDCA), EPA can set limits on the amount of pesticide residues on food. The main issue facing EPA is to clarify plant pesticides that warrant EPA oversight under FIFRA and FFDCA.

For more information about the meeting or the issues, please call Robert B. Jaeger at EPA at 703-305-5369.

### **U.S.-EC WORKING GROUP MEETS IN BRUSSELS**

The fifth meeting of the U.S.-EC (European Community) Permanent Technical Working Group on Biotechnology and the Environment took place in Brussels, Belgium, November 4, before the plenary session of the Bilateral Environmental Consultations. Officials from the EPA and USDA's Animal and Plant Health Inspection Service (APHIS) met with regulatory authorities from the Commission of the EC to exchange information on oversight of introductions of organisms into the environment. The participants agreed to finalize and jointly publish a tripartite work on vectors and transformation methods, and to hold a joint workshop in several months on large-scale introductions. The group also explored the idea of exchanging mutually acceptable data for biotechnology products. For more details call John Payne, Deputy Director in the



Biotechnology, Biologics and Environmental Protection Division (BBEP) of APHIS at 301-436-7602.

## **FDA'S FOOD POLICY DEBATED**

James Maryanski, biotechnology coordinator at the Food and Drug Administration (FDA), and Rebecca Goldberg, scientist at the Environmental Defense Fund (EDF), shared their views on FDA's policy on foods derived from new plant varieties, including those developed by molecular biotechnology. The discussion took place November 18 at a meeting of the Biotechnology Policy Forum in the Rayburn House Office Building in Washington, DC. Maryanski said the kinds of substances being introduced into foods through biotechnology are not that different from substances introduced through traditional breeding. However, he said the role of allergens in genetically engineered foods needs further scientific exploration. He said food labeling is another complex issue that may warrant further discussion.

Goldberg outlined three safety issues she said FDA has not adequately addressed: 1) the safety/toxicity of introduced proteins; 2) allergenicity of introduced proteins; and 3) any unexpected effects of genetic engineering. She said FDA's labeling policy may be "disastrous" to some people with allergies and urged Congress to make FDA's policy more "consumer friendly."

## **UC BEGINS BIOTECH ED PROGRAM**

A cooperative venture is now underway at the University of California to educate students at all levels in agricultural biotechnology. The effort is jointly sponsored by UC's College of Agricultural and Environmental Sciences, the Center for Engineering Plants for Resistance Against Pathogens, the Cooperative Extension Service, and the UC Systemwide Biotechnology Research and Education Program.

The goal of the program is to increase awareness and knowledge of biotechnology through workshops and educational tools, information retrieval services, and other resources. Planned education materials will not be limited to traditional textual and audio-visual media, but will include arcade game-like interactive computer programs and other novel teaching mechanisms. For more details about the program, call Martina McGloughlin at 916-757-3447.

## SHAPING PUBLIC OPINION

Susanna Hornig, an assistant professor in the Department of Journalism at Texas A&M University, College Station, TX, has been awarded a grant from the National Science Foundation to study how the public responds to media accounts of complex subjects like biotechnology. The research focuses on which biotech issues are covered by the media and how people process the information to make up their minds. For more information about the study, call Barbara Stow at 409-847-8921.

## THE CASSAVA CONNECTION

Cassava is one of the most important crops in the world. Five hundred million people, primarily in poor countries, depend on it for their sole source of nutrition. That is why it is so important to keep cassava production strong and to use biotechnology to help fight the insects and diseases that plague this crop.

This is the goal of the Cassava Biotechnology Network (CBN), which held its first international meeting August 25-28 in Cartagena, Colombia. The 125 participants discussed how cyanogenic compounds, which occur naturally in cassava, can affect human health. They explored the use of biotechnology in cassava germplasm activities, how to develop genetic maps, the use of tissue culture and cryopreservation, and the molecular biology of stress tolerance. They recommended more research using biotechnology to improve fermentation processes and to explore additional uses for cassava.

The meeting was sponsored by the Director General of the International Cooperation of the Dutch Foreign Ministry and the Rockefeller Foundation. To learn more about the CBN, write to Claude M. Fauquet, Co-Director ILTAB, The Scripps Research Institute, 10666 N. Torrey Pines Road, La Jolla, CA 92037.

## HUNGARY SEEKS PARTNERSHIPS

According to an article in the November 1992 issue of *Bio/Technology*, Hungary would like to collaborate with foreign organizations on biotechnology research and development projects. Research in Hungary generally focuses on benefits to agriculture and health care, especially the production of pharmaceuticals. At its National Academy of Sciences Institutes, researchers are using rDNA to study maize virus resistance via protoplast fusion; production of restriction endonucleases and modification enzymes; and the development of double haploid wheat. At the Agricultural Biotechnology Center in Godollo, scientists are using the particle gun to transform wheat and rice. The article says there is some



risk involved in joint Hungarian ventures due to that country's weak economy and uncertain intellectual property climate.

## IN CASE YOU WEREN'T THERE

■ USDA's Cooperative State Research Service was a sponsor of an "International Symposium on the Molecular Genetics of Root Development," November 6-8 at New York University (NYU). The program was organized by Philip Benfey and Gloria Coruzzi in the biology department. Highlights included a presentation on the molecular genetic analysis of Arabidopsis root morphogenesis and seminars on genetic control and the molecular biology of root development. For more details, call Benfey at 212-995-4204.

■ "Harmonization of Biosafety in the Southern Cone Countries of South America: Supervision of Transgenic Plants" was the theme of a meeting that took place November 16-20 in Buenos Aires, Argentina and attended by John Payne, APHIS Deputy Director, and by Quentin Kubicek, APHIS plant pathologist. Payne gave an overview of the regulation of transgenic plants in the United States. Both he and Kubicek gave presentations on evaluating ecological risk and on scientific evaluation of field trial applications.

Representatives from southern South American countries recommended that the current risk-based and product-based statutes already in place be used to the extent possible as a framework for any necessary regulation for transgenic plants. This approach follows that used in Canada, the United States, and Mexico and should facilitate the eventual harmonization of biotechnology oversight in the Western hemisphere.

The workshop was facilitated by the Inter-American Institute for Cooperation in Agriculture. Represented at the meeting were countries in the southern part of South America -- Argentina, Chile, Bolivia, Paraguay, Uruguay, and Brazil, plus officials from Canada, the United States, and Mexico. For more details, call John Payne, BBEP/APHIS, at 301-436-7602.

## NEW PUBLICATIONS

■ "Ethics and Patenting of Transgenic Organisms." Proceedings of a symposium held earlier this year at Texas A&M University, co-sponsored by the National Agricultural Biotechnology Council and

the Center for Biotechnology Policy and Ethics. Published September 1992. To receive a copy write to NABC, 159 Biotechnology Building, Cornell University, Ithaca, NY 14853-2703.

■ "Invest in Success" is a new pamphlet prepared by the Office of Higher Education at USDA's Cooperative State Research Service. To receive a copy write to Food and Agricultural Careers for Tomorrow, 127 Agricultural Administration Building, Purdue University, West Lafayette, IN 47907.

■ "Sustainable Agriculture: Program Management, Accomplishments, and Opportunities." Report prepared by the General Accounting Office. September 1992. To order a copy call 202-275-6241

■ *Semiochemicals in Crop Protection* is a new book published by Agrow Reports. To order call 212-262-8230; Fax: 212-262-8234.

■ *Marine Aquaculture: Opportunities for Growth*. Published by the National Academy Press, Washington, DC. 1992. To order call 1-800-624-6242.

## UPCOMING MEETINGS

**Dec. 6-9:** International Symposium on Soil Decontamination Using Biological Processes. Frankfurt, Germany. Sponsored by the German Federal Ministry of Research and Technology, the Commission of the European Communities, and the U.S. Environmental Protection Agency. For details send a fax to (0)69/7564-201.

**Dec. 14-16:** Workshop on Control of Gene Expression in Yeast. Madrid, Spain. Call 34-1-435-4240; Fax: 34-1-576-3420.

**Dec. 18:** Meeting of EPA's Scientific Advisory Panel. Sheraton Crystal City Hotel. Arlington, VA. For details call Robert B. Jaeger at 703-305-5369.

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**Jan. 11-12:** "International Patent Protection for Biotechnology Companies." Georgetown University Conference Center, Washington, DC. For details call 508-481-6400; Fax: 508-481-4473.

**Jan. 17-22:** The 1993 Miami Bio/Technology Winter Symposium: Advances in Gene Technology: Protein Engineering and Beyond. Miami, FL. Call 1-800-642-4363; Fax: 305-324-5665.

**Jan. 24-27:** BIOEAST '93. Washington, DC. Call 301-762-2957.



Feb. 11-16: Annual Meeting of the American Association for the Advancement of Science. Boston, MA. The agenda includes a session on agricultural biotechnology. For details write AAAS, 1333 H Street, N.W., Washington, DC 20005.

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March 29-31: Genetic Manipulation of Plant Metabolism and Growth. Norwich, Norfolk, UK. For details write to M.J.C. Rhodes, AFRC Institute of Food Research, Colney Lane, Norwich, Norfolk NR4, 7UA, UK; Telephone: 060-35-6122.

March 31-April 3: Twelfth Annual Symposium: Current Topics in Plant Biochemistry, Molecular Biology and Physiology. Columbia, MO. Call Doug Randall at 314-882-7796; Fax: 314-882-5635.

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April 19-22: First International Symposium on the Biology of Adventitious Root Formation. For details write to Edith Franson, USDA Forestry Sciences Lab, Box 898, Rhinelander, WI 54501.

April 21-25: Molecular Genetics of Plant-Microbe Interactions. East Brunswick, NJ. Call 908-932-9271; Fax: 908-932-8276.

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**Biotechnology Notes** is written by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Suggestions for future issues are always appreciated and may be sent to USDA/OAB, Room 1001, Rosslyn Plaza East, 14th and Independence Ave., S.W., Washington, DC 20250-2200. Phone: 703-235-4419; Fax: 703-235-4429.

## ***NOTES***